



Meru AP110

Installation Guide

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October 2013

MERU NETWORKS, INC. Limited Product Warranty

This Limited Product Warranty applies to the original end-user customer of the Meru product which you purchased for your own use, and not for resale (“Product”), from Meru Networks, Inc. (“Meru”) or its authorized reseller (“Reseller”).

Limited Warranties

- One-year limited hardware warranty: Meru warrants to you that Meru hardware (other than Third Party Products as described below) will be free from defects in materials and workmanship for a one-year period after the date of delivery of the applicable product to you from Meru or its Reseller (the “Hardware Warranty Period”). If Meru receives written notice from you of such defects during the Hardware Warranty Period, Meru will, at its option, either repair or replace Meru hardware that Meru determines to be defective. Replacement products may be remanufactured units, and will be warranted for the remainder of the original Hardware Warranty Period, or if greater, for thirty days from delivery of such replacement. Should Meru be unable to repair or replace the Meru hardware, Meru (or its Reseller, as applicable) will refund to you the purchase price of the Product.
- 90-Day Limited Software Warranty: Meru warrants to you that, for a 90-day period after the date of delivery of the applicable product to you from Meru or its Reseller (the “Software Warranty Period”), when properly installed and used, (a) the media on which the Meru software is provided will be free from defects in materials or workmanship; and (b) the Meru software will substantially conform to the functional specifications in the applicable documentation. If Meru receives written notice from you of a breach of this warranty during the Software Warranty Period and is able to reproduce the defect, Meru will, at its option, either repair or replace the defective Meru software. Should Meru be unable to repair or replace the Meru software, Meru (or its Reseller, as applicable) will refund to you the purchase price of the Product.

Exclusions

The warranty on the Product shall not apply to defects resulting from the following:

- Alteration or modification of the Product in any way, including without limitation configuration with software or components other than those supplied by Meru or integration with parts other than those supplied by Meru.
- Abuse, damage or otherwise being subjected to problems caused by negligence or misapplication (including without limitation improper or inadequate maintenance or calibration), relocation of the products (including without limitation damage caused by use of other than Meru shipping containers), or use of the products other than as specified in the applicable Meru product documentation (including without limitation incompatible operating environments and systems), or improper site preparation or maintenance.
- Damage as a result of accidents, extreme power surge, extreme electromagnetic field, acts of nature or other causes beyond the control of Meru.
- Use of the Product with software, interfacing, parts or supplies not supplied by Meru.

The warranty on the Product does not apply if the Product is sold, or in the case of software, licensed, for free for evaluation or demonstration purposes.

Meru expressly disclaims any warranty or obligation to support the Product for all operating environments - for example, as illustration and not limitation, Meru does not warrant or ensure interoperability of the Product with future telecommunication systems or other future software or hardware.

You understand and acknowledge that the Products may generate, use or radiate radio frequency energy and may interfere with radio communications and/or radio and television receptions if is not used and/or installed in accordance with the documentation for such products. WHILE MERU USES COMMERCIALY REASONABLE EFFORTS TO ENSURE COMPLIANCE OF THE PRODUCTS WITH APPLICABLE UNITED STATES FEDERAL COMMUNICATIONS COMMISSION AND PROTECT AGAINST HARMFUL INTERFERENCES, YOU ACKNOWLEDGE AND AGREE THAT INTERFERENCES WITH RADIO COMMUNICATIONS AND/OR RADIO AND TELEVISION RECEPTIONS MAY OCCUR AND THAT MERU WILL NOT BE LIABLE FOR ANY DAMAGES OR INCONVENIENCE BASED ON SUCH INTERFERENCES.

Third Party Products - The above Limited Warranties are exclusive of products manufactured by third parties ("Third Party Products"). If such third party manufacturer provides a separate warranty with respect to the Third Party Product, Meru will include such warranty in the packaging of the Meru Product.

Return procedures

To obtain warranty service you must: (a) obtain a return materials authorization number ("RMA#") from Meru by contacting rmaadmin@merunetworks.com, and (b) deliver the Product, in accordance with the instructions provided by Meru, along with proof of purchase in the form of a copy of the bill of sale including the Product's serial number, contact information, RMA# and detailed description of the defect, in either its original package or packaging providing the Product with a

degree of protection equivalent to that of the original packaging, to Meru at the address below. You agree to obtain adequate insurance to cover loss or damage to the Product during shipment.

If you obtain an RMA# and return the defective Product as described above, Meru will pay the cost of returning the Product to Meru. Otherwise, you agree to bear such cost, and prior to receipt by Meru, you assume risk of any loss or damage to the Product. Meru is responsible for the cost of return shipment to you if the Meru Product is defective.

Returned products which are found by Meru to be not defective, returned out-of-warranty or otherwise ineligible for warranty service will be repaired or replaced at Meru's standard charges and shipped back to you at your expense.

At Meru's sole option, Meru may perform repair service on the Product at your facility, and you agree to provide Meru with all reasonable access to such facility and the Product, as required by Meru. On-site repair service may be available and is governed by the specific terms of your purchase.

All replaced parts, whether under warranty or not, are the property of Meru.

Warranty limitations

THE WARRANTIES SET FORTH ABOVE ARE EXCLUSIVE AND NO OTHER WARRANTY, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED BY MERU, TO THE MAXIMUM EXTENT PERMITTED BY LAW. THERE ARE NO OTHER WARRANTIES RESPECTING THE PRODUCT AND DOCUMENTATION AND SERVICES PROVIDED UNDER THIS AGREEMENT, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (EVEN IF MERU HAS BEEN INFORMED OF SUCH PURPOSE), TITLE OR AGAINST INFRINGEMENT OF THIRD PARTY RIGHTS. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED UNDER APPLICABLE LAW, THEN SUCH IMPLIED WARRANTY SHALL BE LIMITED IN DURATION TO THE HARDWARE AND SOFTWARE WARRANTY PERIODS DESCRIBED ABOVE.

NO AGENT OF MERU IS AUTHORIZED TO ALTER OR EXCEED THE WARRANTY OBLIGATIONS OF MERU.

MERU SPECIFICALLY DOES NOT WARRANT THAT THE MERU SOFTWARE WILL BE ERROR FREE OR OPERATE WITHOUT INTERRUPTION.

THE REMEDIES IN THIS LIMITED PRODUCT WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES, AND MERU'S SOLE AND EXCLUSIVE LIABILITY, FOR BREACH OF THE HARDWARE OR SOFTWARE WARRANTY SET FORTH ABOVE.

Limitations of Liability

You acknowledge and agree that the consideration which you paid to Meru does not include any consideration by Meru of the risk of consequential, indirect or incidental damages which may arise in connection with your use of, or inability to use, the Product. **THUS, MERU AND ITS RESELLER WILL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR**

COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THIS PRODUCT OR THE SERVICES, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF MERU OR ITS RESELLER KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF MERU OR ITS RESELLER FOR ALL CLAIMS WHATSOEVER RELATED TO THE PRODUCT OR THE SERVICE WILL NOT EXCEED THE PRICE YOU PAID FOR THE PRODUCT OR SERVICES GIVING RISE TO SUCH CLAIMS.

THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF MERU AND ITS RESELLERS AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

The jurisdiction applicable to you may not allow the limitations of liability or damages set forth above, in which case such limitation shall only apply to you to the extent permitted in such jurisdiction.

Additional Information

This Limited Product Warranty shall be governed by and construed in accordance with the laws of the State of California, U.S.A., exclusive of its conflict of laws principles. The U.N. Convention on Contracts for the International Sale of Goods shall not apply.

This Limited Product Warranty is the entire and exclusive agreement between you and Meru with respect to its subject matter, and any modification or waiver of any provision of this statement is not effective unless expressly set forth in writing by an authorized representative of Meru.

All inquiries or claims made under this Limited Product Warranty must be sent to Meru at the following address:

Meru Networks Inc.,
894 Ross Drive, CA 94087, USA

Tel: 408-215-5300

Fax: 408-215-5301

Email: support@merunetworks.com

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About This Guide

This guide provides installation instructions for the Meru AP110 model.

Audience

This guide is intended for anyone installing Meru Wireless LAN System Access Points (APs).

Other Sources of Information

Additional information is available in the following Meru publications, Web site, and external references.

Meru Publications

- *Meru System Director Release Notes*
- *Meru System Director Getting Started Guide*
- *Meru Controller Installation Guide*
- *Meru System Director Command Reference*
- *Meru System Director Configuration Guide*

Website Resources

For the first 90 days after you buy a Meru controller, you have access to online support. If you have a support contract, you have access for the length of the contract. See this web site for information such as:

- *Meru System Director Release Notes*
- Knowledge Base (Q&A)
- Downloads
- Open a ticket or check an existing one

- Customer Discussion Forum

The URL is: <http://support.merunetworks.com>

External References

- Stevens, W. R. 1994. *TCP/IP Illustrated, Volume 1, The Protocols*. Addison-Wesley, Reading, Mass.
- Gast, M.S. 2002. *802.11 Wireless Networks, The Definitive Guide*. O'Reilly and Associates, Sebastopol, Calif.

Typographic Conventions

This document uses the following typographic conventions to help you locate and identify information:

**Note:**

Provides extra information, tips, and hints regarding the topic.

**Caution!**

Identifies important information about actions that could result in damage to or loss of data, or could cause the application to behave in unexpected ways.

**Warning!**

Identifies critical information about actions that could result in equipment failure or bodily harm.

Contacting Meru

You can visit Meru Networks, Inc. on the Internet at this URL:

<http://www.merunetworks.com>

Customer Services and Support

For assistance, contact Meru Customer Services and Support 24 hours a day at +1-888-637-8952 (+1-888-Meru-WLA(N)) or +1-408-215-5305. Email can be sent to support@merunetworks.com.

Meru Networks, Inc. Customer Services and Support provide end users and channel partners with the following:

- Telephone technical support
- Software update support
- Spare parts and repair service

RMA Procedures

Contact Meru Customer Services and Support for a Return Material Authorization (RMA) for any Meru equipment.

Please have the following available when making a call:

- Company and contact information
- Equipment model and serial numbers
- Meru software release and revision numbers (for example, 3.0.0-35)
- A description of the symptoms the problem is manifesting
- Network configuration

Chapter 1

Installing AP110

AP110 is supported by System Director versions 5.2 and greater. This chapter describes how to install and configure an AP110. It contains the following sections:

- [Safety Precautions](#)
- [Package Contents](#)
- [AP110 Overview](#)
- [Configuring the AP110](#)
- [Installing the AP110](#)
- [Using the LAN Port](#)
- [AP110 LED Codes](#)

Safety Precautions

IMPORTANT—Read and follow the regulatory instructions in Appendix B before installing and operating this product.

This document briefly describes the package contents and installation procedure for the Meru AP110. Note that the AP must be configured by IT personnel prior to deployment to communicate properly with the corporate network.



Note:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Package Contents

- AP110
- Power adapter (12V)

- Quick Install
- Ethernet Cable

AP110 Overview

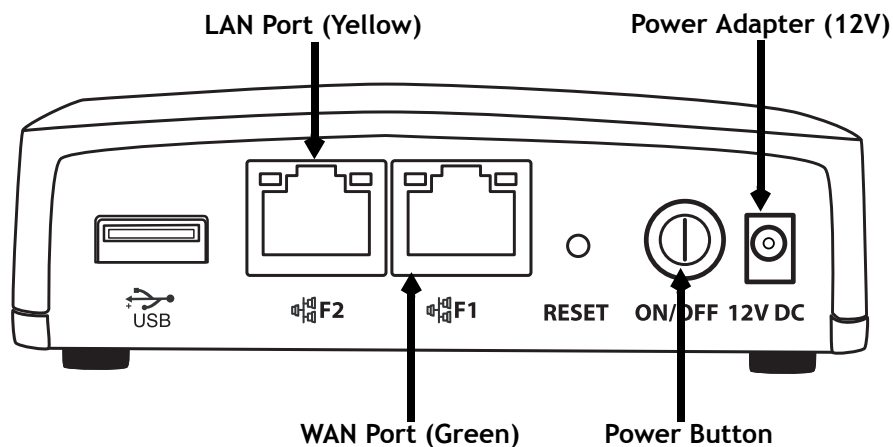
The AP110 is designed for use with small-scale wireless environments and telecommuter applications. When VPN access is configured in the corporate System Director interface, users can deploy the AP110 remotely and have a quick and secure wireless connection to the corporate network.

Deployments that expect high-user-density or are intended to support voice or video streaming are not recommended for the AP110. The AP supports a **maximum** of 10 simultaneous wireless clients.

✓ **Note:** Although the AP110 was designed for remote VPN use, it can be connected directly to the corporate network and configured in the same manner as any other AP if remote use is not required.

See [Figure 1](#) for an overview of the AP110's access ports.

Figure 1: AP110 Ports



The AP110 utilizes a single 2x2 802.11b/g/n wireless radio with an internal antenna.

✓ **Note:** The WPS button on the AP110 is not currently supported.

⚡ **Warning!** The **Reset** button on the AP110 will erase all configured settings on the device, including VPN communication configuration.

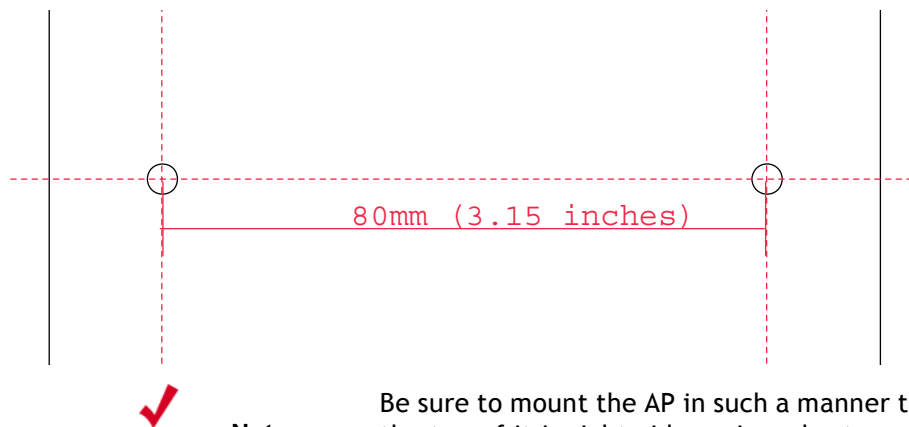
Configuring the AP110

As mentioned above, prior to deploying the AP110 remotely for VPN access, it must be configured to securely connect to the corporate controller. Instructions for configuring VPN access can be found in the "Configuring VPN Connections" section in the "Configuring Security" chapter of the *System Director Configuration Guide*.

Installing the AP110

The AP110 is designed to be mounted on either a horizontal flat surface (such as a desktop or table) or a vertical surface (such as a wall). Note that if you are wall-mounting the AP, you will need to purchase two screws separately. Simply screw them into the wall placed slightly more than three inches apart (use the mounting template provided on the Quick Install document in the box) and slide the AP into place on them. The mounting diagram is shown in [Figure 2](#).

Figure 2: AP110 Mounting Holes



Note:

Be sure to mount the AP in such a manner that the *Meru Networks* logo on the top of it is right-side up in order to ensure that the AP is properly secured. In this configuration, the ethernet ports will be facing upwards.

For horizontal surface deployments, simply place the AP on the desired surface and follow the instructions below.

Connect and Activate the AP

Follow the instructions below when deploying the AP for remote access. Note that prior to doing so, the AP should be configured locally (when using it for VPN access) by the system administrator.

Refer to [Figure 1](#) as a guide for connections.

1. Connect the port labeled F1 (WAN Port in [Figure 1](#)) to the existing router or internet connection. (The port should be colored green to distinguish it from the LAN Port.)
2. If desired, connect another corporate device (such as a VoIP phone) to the port labeled F2 (LAN Port in [Figure 1](#)). Note that this port can be used for any devices that need to be connected to the corporate network; it acts just as a network port at the office would. (The port should be colored yellow to distinguish it from the WAN Port.)
3. Connect the supplied power adapter to the 12V DC port on the AP and plug the other end into a power source. (For Japan customers, use USA power plug SYS1357-USA provided in the box.)



Note: Power-over-Ethernet (PoE) is not supported by the AP110.

4. Press the **On/Off** switch to activate the AP110. (The AP is **On** when the switch is recessed and **Off** when extended.) The connection indicator lights at the top of each network port should turn on when the AP is activated.
5. Connect your wireless station to the wireless network (the SSID is the same as the corporate SSID configured at your office).

Using the LAN Port

As noted in the previous section, the AP110 implements a secondary Ethernet (LAN) port that can operate in the same manner as a port connected directly to the corporate network (when VPN is configured). This port can be used to connect a single corporate device (such as a VoIP phone) or, if multiple devices are needed, you can connect a hub or switch to it and connect several devices at once to the corporate network.



Note: A maximum of 128 devices can be supported by a single LAN port on the AP110.

The LAN port on the AP110 will show up in the System Director WebUI under the **Ethernet** link (**Configuration > Wired > Ethernet**). These ports can also be managed via user-configured Port Profiles, as detailed in the "Configuring Network Interfaces" chapter of the *Meru System Director Configuration Guide* (under "Configuring Port Profiles").

The following features are **not** currently supported on the secondary Ethernet port:

- Bridge mode with VLAN
- Dynamic VLAN in tunneled mode
- MAC Transparency



Note: Do not connect both Ethernet ports on the AP to a single switch; this can create a traffic loop between the various interfaces. This is not a supported configuration on the AP110.

AP110 LED Codes

The AP110 has a single LED that indicates its status. If you want to change the appearance of the LED, follow these steps:

1. From the controller, click **Configuration > Devices > AP**, and then select the AP.
2. Select one of these settings for the LED Mode setting:
 - **Normal:** LED is as described above
 - **Blink:** Sets the LED flashing; this is useful to locate an AP
 - **Dark:** Turns off the LED
3. Click **OK**.

The following table describes the colors that can be displayed by the AP110 Status LED and the details corresponding to each color sequence.

Color	State:
off	AP is off - either there is no power or the LEDs are set to Off on the controller. Check the LED setting on the controller by clicking Configuration > Devices > AP , selecting the AP and then checking the setting for LED Mode.
cyan	AP is booting stage 1.
green blinking	AP is booting stage 2.
green/white alternating	AP is discovering the controller.
green/blue alternating	AP is downloading a configuration from the controller.
slow blue blinking	AP is online and enabled.
rapid blue blinking	AP is online and enabled and there is activity on one or both radios.
red/yellow alternating	Some AP failure occurred; check the controller for more details about the alarm by clicking Monitor > Alarms > Pending Alarms .
blue/yellow alternating	AP is online and enabled and one or both radios are either scanning or an admin has taken the radio(s) down.

AP110 LED Codes

Appendix A

Cautions and Warnings

The cautions and warnings that appear in this manual are listed below in English, German, French, and Spanish.

Cautions

A Caution calls your attention to a possible hazard that can damage equipment.

"Vorsicht" weist auf die Gefahr einer möglichen Beschädigung des Gerätes in.

Une mise en garde attire votre attention sur un risque possible d'endommagement de l'équipement. Ci-dessous, vous trouverez les mises en garde utilisées dans ce manuel.

Un mensaje de precaución le advierte sobre un posible peligro que pueda dañar el equipo. Las siguientes son precauciones utilizadas en este manual.



Caution! The radiated output power of the access points is well below the FCC radio frequency exposure limits. However, the Meru Access Point should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20 cm between you (or any other person in the vicinity) and the Access Point antennas.

Vorsicht! Die abgestrahlte Ausgangsleistung von Geräten von Meru Networks, Inc. liegt weit unter den Hochfrequenz-Expositionsgrenzwerten der FCC. Die Meru Access Point Zugangspunkte von Meru Networks, Inc. sollten jedoch so verwendet werden, dass das Potenzial für Kontakt mit Menschen während des normalen Betriebs auf ein Mindestmaß beschränkt wird. Um die Möglichkeit einer Überschreitung der FCC-Hochfrequenz-Expositionsgrenzwerte zu vermeiden, ist ein Abstand von mindestens 20 cm zwischen Ihnen (bzw. einer anderen Person in der Nähe) und den Zugangspunkt-Antennen zu wahren.

Mise en garde La puissance de rayonnement émise par les équipements Meru Networks, Inc. est très inférieure aux limites d'exposition aux fréquences radio définies par la FCC. Toutefois, les points d'accès de la série Meru Access Point de Meru Networks, Inc. doivent être utilisés de façon à éliminer tout risque de contact humain en fonctionnement normal. Pour éviter de dépasser les limites d'exposition aux fréquences radio définies par la FCC, il est impératif de préserver en permanence une distance supérieure ou égale à 20 cm entre l'utilisateur (ou toute personne se trouvant à proximité) et les antennes du point d'accès.

Precaución! La potencia de radiación de los dispositivos de Meru Networks, Inc. está muy por debajo de los límites de exposición a radiofrecuencia estipulados por la FCC. No obstante, los puntos de acceso de la serie Meru Access Point de Meru Networks, Inc. deben usarse de tal manera que se minimice la posibilidad de contacto para el usuario durante la operación normal. Para evitar la posibilidad de exceder los límites de exposición a radiofrecuencia establecidos por la FCC, el usuario (o cualquier otra persona en torno) debe mantenerse a una distancia de al menos 20 cm respecto a las antenas del punto de acceso.



Caution! Exposure to Radio Frequency Radiation.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit an RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website <http://www.hc-sc.gc.ca/rpb>.

Vorsicht! Exposure to Radio Frequency Radiation.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit an RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website <http://www.hc-sc.gc.ca/rpb>.

Mise en garde Exposition aux rayonnements à fréquence radioélectrique

L'installateur de cet équipement radio doit veiller à positionner et orienter l'antenne de telle sorte qu'elle n'émette pas un champ radioélectrique supérieur aux limites définies par Santé Canada pour la population générale. Consulter le Code de sécurité n° 6, disponible sur le site Web de Santé Canada à l'adresse <http://www.hc-sc.gc.ca/rpb>.

Precaución! Exposición a la radiación de radiofrecuencia.

El instalador de este equipo de radio debe cerciorarse de que la antena está localizada u orientada de tal manera que no emita un campo de radiofrecuencia superior a los límites estipulados por Health Canada para la población; consulte el Código de Seguridad 6 que podrá encontrar en el página web de Health Canada, <http://www.hc-sc.gc.ca/rpb>.

Warnings

A warning calls your attention to a possible hazard that can cause injury or death. The following are the warnings used in this manual.

"Achtung" weist auf eine mögliche Gefährdung hin, die zu Verletzungen oder Tod führen können. Sie finden die folgenden Warnhinweise in diesem Handbuch:

Un avertissement attire votre attention sur un risque possible de blessure ou de décès. Ci-dessous, vous trouverez les avertissements utilisés dans ce manuel.

Una advertencia le llama la atención sobre cualquier posible peligro que pueda ocasionar daños personales o la muerte. A continuación se dan las advertencias utilizadas en este manual.



Warning! Inside antennas must be positioned to observe minimum separation of 20 cm. (~ 8 in.) from all users and bystanders. For the protection of personnel working in the vicinity of inside (downlink) antennas, the following guidelines for minimum distances between the human body and the antenna must be observed.

The installation of the indoor antenna must be such that, under normal conditions, all personnel cannot come within 20 cm. (~ 8.0 in.) from any inside antenna. Exceeding this minimum separation will ensure that the employee or bystander does not receive RF-exposure beyond the Maximum Permissible Exposure according to FCC CFR 47, section 1.1310 i.e. limits for General Population/Uncontrolled Exposure.

Achtung! Innenantennen müssen so positioniert werden, dass ein Mindestabstand von 20 cm (ca. 8 Zoll) zu allen Benutzern und anderen Personen gewahrt wird. Zum Schutz von Personal, das in der Nähe von Innenantennen (Downlink) arbeitet, sind die folgenden Richtlinien für Mindestabstand zwischen dem menschlichen Körper und der Antenne zu beachten.

Die Innenantenne muss so installiert werden, dass sich unter normalen Bedingungen kein Personal bis auf weniger als 20 cm (ca. 8 Zoll) an eine Innenantenne annähern kann. Durch Überschreitung dieses Mindestabstands wird sichergestellt, dass Mitarbeiter oder andere Personen keiner RF-Exposition über die maximal zulässige Exposition (MPE; Maximum Permissible Exposure) gemäß FCC CFR 47, Abschnitt 1.1310 (Grenzwerte für die allgemeine Bevölkerung/unkontrollierte Exposition) ausgesetzt werden.

Avertissement Les antennes intérieures doivent être positionnées de façon à respecter une distance minimum de 20 cm par rapport aux utilisateurs et aux tiers. Pour la protection du personnel travaillant à proximité des antennes intérieures (liaison descendante), respecter les directives suivantes pour assurer des distances minimales entre les êtres humains et les antennes.

Toute antenne intérieure doit être installée de telle sorte que, dans des conditions normales, le personnel ne puisse s'en approcher à moins de 20 cm. Cette distance minimale est destinée à garantir qu'un employé ou un tiers ne sera pas exposé à un rayonnement radioélectrique supérieur à la valeur maximale autorisée, telle qu'elle est définie dans les limites d'exposition non contrôlées pour la population par la réglementation de la FCC CFR 47, section 1.1310.

Advertencia Las antenas interiores deben colocarse de manera que se observe una separación mínima de 20 cm. (~ 8 pulg.) respecto a todos los usuarios y circunstantes. Para la protección del personal que trabaje en las inmediaciones de las antenas interiores (receptoras), deben observarse las siguientes directrices relativas a la distancia mínima entre el cuerpo humano y la antena.

La instalación de la antena interior debe efectuarse de tal modo que, en condiciones normales, ningún miembro del personal pueda acercarse a menos de 20 cm. (~ 8,0 pulg.) de cualquier antena interior. El cumplimiento de este mínimo de separación asegura que el empleado o circunstante no recibirá exposición a radiofrecuencia por encima de la Exposición Máxima Permisible conforme a la normativa FCC CFR 47, sección 1.1310, es decir, los límites asignados a la Exposición Incontrolada/Población Civil.

Warnings

Appendix B

Regulatory Information

The Meru Access Point (APs) must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. For country-specific approvals, see below. Meru Networks, Inc. is not responsible for any radio or television interference caused by unauthorized modification of APs, or the substitution or attachment of connecting cables and equipment other than that specified by Meru Networks, Inc. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Meru Networks, Inc. and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

USA

Underwriters Laboratories

Use only with Listed I.T.E. equipment.

FCC Radiation Exposure Statement



Caution!

The radiated output power of the Meru Networks devices is well below the FCC radio frequency exposure limits. However, the Access Point should be used in such a manner that the potential for human contact during normal operation is minimized. When installing and operating these devices, keep a minimum distance of 20 cm (8 inches) between the antennas and any persons/users in the vicinity.

Radio Frequency Interference Requirements

Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If the equipment is not installed and used in accordance with the instructions, the equipment may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by taking one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Note:

The Meru Access Point must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use may violate FCC Part 15 regulations. Modifications not expressly approved by Meru Networks, Inc. could void your authority to operate the equipment.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.

For products available in the USA and Canadian markets, only channels 1 through 11 can be operated. Selection of other channels is not authorized.

Canada. Industry Canada (IC)

The Class B digital portion of this apparatus complies with Canadian standard ICES-003.

These devices comply with RSS210 of Industry Canada.

Per RSS 210 A9.5 point 7:

- (i) the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems;
- (ii) the maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the e.i.r.p. limit; and
- (iii) the maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3).

In addition, users should also be cautioned to take note that high-power radars are allocated as primary users (meaning they have priority) of the bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

- (iv) These devices are not permitted to operate in the 5600 - 5650 MHz band.

For products available in the USA and Canadian markets, only channels 1 through 11 can be operated. Selection of other channels is not authorized.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

This device and its listed antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

To reduce the potential radio interference to other users, the antenna type and gain should be chosen so that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence.



Exposure to Radio Frequency Radiation.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit an RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website <http://www.hc-sc.gc.ca/rpb>.

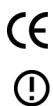
Caution!

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the antennas and any persons/users in the vicinity.

Europe—EU Declaration of Conformity and Restrictions



This equipment is marked with either the CE Mark, the alert symbol, and the notified body's number and can be used throughout the European Community. This mark indicates compliance with the R&TTE Directive 1999/5/EC and the relevant parts of the following technical specifications.



This equipment is marked with either the CE Mark, the alert symbol, and the notified body's number and can be used throughout the European Community. This mark indicates compliance with the R&TTE Directive 1999/5/EC and the relevant parts of the following technical specifications.

EN 300 328. Electromagnetic Compatibility and Radio Spectrum Matters (ERM). Wideband transmission systems, data transmission equipment operating in the 2.4 GHz ISM (Industrial, Scientific, and Medical frequency bands in the range of 902-928 MHz, 2.4-2.485 GHz, and 5.15-5.25 GHz) band and using spread spectrum modulation techniques, harmonized EN standards covering essential requirements under article 3.2 of the R&TTE directive.

EN 301 893. Broadband Radio Access Networks (BRAN). 5 GHz high-performance RLAN, harmonized EN standards covering essential requirements of article 3.2 of the R&TTE directive.

EN 301 489-17. Electromagnetic Compatibility and Radio Spectrum Matters (ERM). Electromagnetic Compatibility (EMC) Standard for Radio Equipment and Services, Part 17 Specific Conditions for Wideband Data and HIPERLAN Equipment.

EN 55022 Statement (applicable to AP201 Rev 2, AP208 Rev 2 only). This is to certify that the above models are shielded against the generation of radio interference in accordance with the application of Council Directive 2004/108/EC, Annex I, 1a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22). Compliance is dependent upon the use of Cat 5e shielded data cables.

EN 60950-1. Safety of Information Technology Equipment.

EN 50385. Product standard to demonstrate the compliances of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields.



Marking by the alert symbol indicates that usage restrictions apply.



Marking by the alert symbol indicates that usage restrictions apply.

Meru Networks, Inc. declares that their Access Points comply with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Meru Networks, Inc. vakuuttaa täten että Access Points tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Hierbij verklaart Meru Networks, Inc. dat het toestel Access Points in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Bij deze verklaart Meru Networks, Inc. dat deze Access Points voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.

Par la présente, Meru Networks, Inc. déclare que l'appareil Access Points est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Par la présente, Meru Networks, Inc. déclare que ce Access Points est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables.

Härmed intygar Meru Networks, Inc. att denna Access Points står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Undertegnede Meru Networks, Inc. erklærer herved, at følgende udstyr Access Points overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Hiermit erklärt Meru Networks, Inc. dass sich dieser/diese/dieses Access Points in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet.

Hiermit erklärt Meru Networks, Inc. die Übereinstimmung des Gerätes Access Points mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG.

Con la presente Meru Networks, Inc. dichiara che questo Access Points è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Por medio de la presente Meru Networks, Inc. declara que el Access Points cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Meru Networks, Inc. declara que este Access Points está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Hawnhekk, Meru Networks, Inc. jiddikjara li dan Access Points jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Käesolevaga kinnitab Meru Networks, Inc. seadme Access Points vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

Alulírott, Meru Networks, Inc. nyilatkozom, hogy a Access Points megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Meru Networks, Inc. týmto vyhlasuje, e Access Points splna základné poiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Meru Networks, Inc. tímto prohlašuje, e tento Access Points je ve shode se základními poadavky a dalšími příslušnými ustanoveními smernice 1999/5/ES.

Šiuo Meru Networks, Inc. deklaruoja, kad šis Access Points atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Ar šo Meru Networks, Inc. deklare, ka Access Points atbilst Direktivas 1999/5/EK būtiskajam prasibam un citiem ar to saistitajiem noteikumiem.

Niniejszym, Meru Networks, Inc., deklaruje, ze Access Points spełnia wymagania zasadnicze oraz stosowne postanowienia zawarte Dyrektywie 1999/5/EC.

These products are intended to be used in all countries of the European Economic Area with the following restrictions:

IEEE 802.11b/g Restrictions

- France—In all Metropolitan départements, wireless LAN frequencies can be used under the following conditions, either for public or private use:

Indoor use: maximum power (EIRP) of 100 mW for the entire 2400-2483.5 MHz frequency band.

Japan

EN 55022 Statement (applicable to AP201 Rev 2, AP208 Rev 2 only). This is to certify that the above models are shielded against the generation of radio interference in accordance with the application of Council Directive 2004/108/EC, Annex I, 1a. Conformity is declared by the application of EN 55022 Class B (CISPR 22). Compliance is dependent upon the use of shielded data cables.

Singapore

<p>Complies with IDA Standards DB102245</p>
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Manufacturing Information

The AP110 is built in China. Factory information is provided under NDA and upon request.

Distributed Antenna Systems (DAS)

Meru Networks does not certify or endorse any specific Distributed Antenna System (DAS) vendors. Meru Networks will provide support to Meru Wi-Fi customers that use distributed antennas within the terms and conditions of the MeruAssure Terms of Service and in accordance with the customer's support agreement. Meru Customer Support will support Meru software and hardware, and will work jointly with DAS vendors to identify and troubleshoot issues, but any support related to RF issues, including RF coverage, shall be the responsibility of the DAS vendor.

Meru Networks recommends that customers use only a DAS that has been tested to work with Meru hardware and software. Meru does not provide any site surveys, design or implementation of Wi-Fi over DAS. Meru recommends that customers obtain such services from a trained and qualified systems integrator or from their DAS vendor.



voice. data. wireless. *Become one.*

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